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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,649

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Theodore George Paraskevagos

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EXAMINER

NGUYEN, PHUNG HOANG JOSEPH

ART UNIT

PAPER NUMBER

2614

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,649	Applicant(s) PARASKEVAKOS ET AL.	
	Examiner PHUNG-HOANG J. NGUYEN	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-19, 21-64, 66-81, and 84-86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-19, 21-64, 66-81 and 84-86 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's amendment filed 7/30/09 has been carefully considered and has been entered. Current standing of the claims.

Claims amended: 4, 7, 9, 11, 21, 23, 25, 27, 29, 39, 41, 43, 48, 60, 71, 74, and 80.

Claims cancelled: 20.

Claims newly added: 84-86.

Claim pending: 2-19, 21-64, 66-81, and 84-86 with claims 11, 48, 80 being independent.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 2-19, 21-64, 66-75, 79-81, and 84-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verma et al (US Pat 4,833,618) in view of Crichlow et al (US Pub 2002/0018545) further in view of Belski et al (US Pub 2002/0193144).**

Claims 11, 21, 23, 25, 27, 29, 31, 44-46, 48, 55 and 80, Verma teaches a method of remote management of products and services (*Title and Abstract*), comprising:

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installing at least one sensor (*meter sensor interface means, col. 1, line 67 or meter sensors 12 A, B and C*) in or near at least one consumption metering device (*Remote Data Unit (RDU) located at an end-user site for monitoring, accumulating, and reporting usage data from locally disposed meters, col. 1, lines 56-59*);

collecting readings from the at least one sensor installed on the at least one metering device (*collecting the usage data sent from the RDU over a conventional telephone network and assembling and transmitting the data to a utility host for administrative processing and billing, col. 1, lines 60-63*) at fixed time intervals (*at a specific predetermined time during one day of the billing cycle or period, col. 2, lines 27-28*).

transmitting the collected readings to a communication unit installed in or near property of a consumer (*...and transmitting the data to a utility host for administrative processing and billing, col. 1, lines 60-63*);

receiving, processing, and storing (*collecting, assembling and transmitting the data, col. 1 lines 60-63*) the readings from the at least one sensor in the communication unit (*The control unit output is connected to a digital communications interface which collects the data, col. 2, lines 1-12*);

transmitting information processed by the communication unit to at least one communication center (*Central office 28 of fig. 1; col. 3, lines 29-35*);

receiving, processing, and storing the information (*collecting, assembling and transmitting the data, col. 1 lines 60-63*) from multiple communication units of multiple

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users-consumers in the at least one communication center (*Central office 28 of fig. 1; col. 3, lines 29-35... connecting to the Utility collection 8*);

Verma teaches one or more communication units and communication center (*fig. 1 shows telephone 18 connecting to the central office 8 and utility collection 8 for communicating the billing and data collection between the customer's site and the service provider. Col. 3, lines 13-40 shows how the configuration and data collection components which involve the conventional telephones, and data processor exchanges involving communication units and communication centers*);

Furthermore, Verma teaches the information collected from the at least one sensor (*collecting the usage data sent from the RDU over a conventional telephone network and assembling and transmitting the data to a utility host for administrative processing and billing, col. 1, lines 60-63*). Verma also teaches software required in order to undertake and process information received from the communication unit (*hardware and software to facilitate the operation, administration and maintenance of the system, col. 9, line 45*).

Verma does not specifically discuss creating consumption curves or kilowatt hour sale prices; and transmitting the consumption curves or kilowatt hour sales prices to individual communication units. While Verma teaches the information (usage data, see above)... Verma does not teach the information is processed on the basis of time, leading to the creation of more than one charging zones.

Crichlow teaches a method and system capable of automatically optimizing electric power use at the customer location by using a combination of linear and non-

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linear optimizing algorithms and "time of day" or "real time pricing per Kwhr" data, thereby allowing the customer to minimize total energy costs [0123] where in the real time pricing information from the utility company on the \$/Kwhr for electricity sold, [0116]; the Kw rate forecasted at each hour of the day to optimize the use of the system [0117]; the predicted KwHr to meet all system constraints and power use of the customer, [0118]; and the cumulative KwHr dispatched to the customer to meet the electric power needs of the system customers [0119]. Crichlow shows the graphical "curve" of the power real-time pricing, real time power use and the real time power cost (figs. 14-16 and [0115]) for the specifically detailing the consumer cost in a very clear and definite manner to monitor usage of a utility at a remote location by a central station and incorporates a real time method for optimizing energy costs operationally by combining optimization algorithms and real time pricing data to lower costs to the energy user (*Abstract*). As a point of emphasis on the teaching of charging zones which appears to be very consistent and relevant to today's teaching on energy saving, earth/environment friendly and green earth, Crichlow indicates the purpose of the use of "time of day" or "real time pricing per Kwhr" data will allow the customer to minimize total energy costs by using power at times that minimize costs but still meet all the required constraints for customer electric power use. This allows the energy end user to select the equipment such that the hourly use of power keeps the total energy cost at a minimum without affecting commercial and industrial operations [0040].

Therefore it would have been obvious to the ordinary skilled artisans at the time of the invention was made to incorporate the teaching of Crichlow into the teaching of

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Verma for the purpose of enhancing the system with variety of ways to verify the energy use of the customers by providing them the exact amount of energy use associated with the relevant cost/price. Furthermore, the incorporation would also increase the modern convenience of internet service where customers can browse and pay their bills via online banking or other internet related payment technologies (*Crichlow's Abstract*).

Furthermore, Verma does not specifically discuss means for recognition of emergency conditions, means of classification thereof, and means for sending that recognition and classification data to the at least one communication center.

Crichlow teaches provide a system for automatically determining the working status of the customer's electric, natural gas or water system over the internet during times of outages and other disaster related incidents. When the meter is offline or power is out there is a special outage signal code from the PC device sent over the computer modem to the main server, [0036, 0093, 0122, and 0123].

Both Verma and Crichlow do not explicitly teach wherein a product or service providing company may automatically interrupt the supply of services and products to the consumer-user through communication with the communication unit.

Belski teaches wherein a product or service providing company may automatically interrupt the supply of services and products to the consumer-user through communication with the communication unit. (*The master station further includes reporting capabilities for analyzing consumption data, reporting communication performance, service interruptions, etc. Other capabilities include providing complex*

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billing determinants, historic information for usage tracking, local and remote information display, etc, par. 0059 and 0070).

Therefore it would have been obvious to the ordinary skilled artisans at the time of the invention was made to incorporate the teaching of Belski into the teaching of Verma, in view of Crichlow, for the purpose of communicating the actions taken by the service and/or product provider promptly providing the reason what the service/product is interrupted and requiring appropriate actions from the consumers in order to restart the service again.

Claims 2-10 and 69-73, both Verma and Crichlow teach water meter and gas meter and electric meter and relevant meter sensor or monitor throughout their document.

Claim 12, Verma teaches the information collected by the at least one sensor meter is transmitted from the meter to the communication unit through power transfer lines (*Verma: fig. 6*).

Claims 13-16 and 66-68, Verma does not but Crichlow teaches the use of internet (*Internet Service Provider 50 of fig. 2*), mobile telephony (*wireless, par. 0123*), simple telephone line (*par, 0123*).

Claims 17-19, 22, 24, 26, 28, 30, 32-36, 47, 50-54, 56-64 and 84-86 Verma and Crichlow do not explicitly discuss customer receives information concerning the progress and development; customer settles the invoice; polling, price update, customer expresses his opinion; service provider may reconnect;

It is however obvious to the ordinary skilled artisan that the utility system (PC as a means with required software to send billing in the e-mail format) is designed not just to provide the comfort and convenience for the consumers, but also to profit from the services. The system is intelligently software-executable system. It is not just capable of interrupting the consumers who unfairly abuse the service by not paying their due, it is also capable of providing safety by auto-shutting when there is leaking of gas or heat or electric or water that may be harmful to health and environment. Furthermore, it is also obvious that the provider would take advantage of the system to provide information related to the use of gas, water, price update, polling, settling the invoice, heat and electric for the communication and education.

Therefore, it is obvious for the ordinary skilled artisans at the time of the invention was made to code a control function in response to emergency or abuses or tapering. It also provides educational awareness/advertisement of the energy consumption as part of customer-provider relationship building.

Claims 37-43 and 74-75 Crichlow: the following communications means and networks provide the electronic power transfer lines of the customer-user [0036, 0070]; radio electromagnetic, microwave ([0068] wireless communications network, [0069] public communications network, [0076] personal computer).

Claim 49, Verma teaches registration (col. 8, line 60).

Claim 79, see claim 80 for the teaching on the electric power supply.

Claim 81, see Crichlow (the PC and an e-mail message, see Abstract, and [0019, 0033, 0037]).

Claims 76-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verma in view of Crichlow further in view of Lubliner et al (US Pat 5559894)

Claims 76-78, Verma teaches digital communication interface and digital data signal. Likewise, Crichlow also teaches digital data.

Both Verma and Crichlow do not specifically teach digitized optical images or an optical character recognition (OCR) software program for receiving digitized optical images and processing them.

Lubliner teaches an OCR means (the computer with programmed OCR software) to read such information which includes meter identification number, manufacturer, manufacturer model or type, voltage, amperage, number of wires, meter reading, etc. (col. 6, lines 30-34) as one of the many methods of billing reading purpose.

Therefore it would have been obvious to the ordinary artisan at the time of the invention was made to incorporate the teaching of Lubliner into the teaching of Verma and Crichlow to clearly define that OCR is one of the best tools available to read/process the images recorded for the billing or any related literature for the customer use.

INQUIRY

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUNG-HOANG J. NGUYEN whose telephone number is (571)270-1949. The examiner can normally be reached on Monday to Thursday, 8:30AM - 5:00PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571 272 7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CURTIS KUNTZ/
Supervisory Patent Examiner, Art Unit 2614

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Examiner, Art Unit 2614